

Remarks:

Reconsideration of the application is requested.

Claims 1-2 and 5-13 remain in the application. Claims 1 and 5-7 have been amended. Claims 3 and 4 have been cancelled. Claims 12 and 13 have been added.

In the section entitled "Oath/Declaration" on page 2 of the above-identified Office action, the declaration has been objected to as not being signed and dated. However, the completed declaration was filed on April 10, 2002 with the proper payment and form. If the Examiner cannot locate the paper, copies will be submitted.

In the section entitled "Drawings" on page 2 of the above-identified Office action, the drawings have been objected to as failing to comply with 37 CFR 1.84(p)(5).

More specifically, the Examiner has stated that the drawings include the following reference signs not mentioned in the description: 4, 7 and 8. These reference signs have been deleted from the drawings.

In the section entitled "Specification" on page 2 of the above-identified Office action, the specification has been

objected to because of informalities. Appropriate correction has been made.

In the section entitled "Claim Rejections - 35 USC § 102" on pages 2-3 of the above-mentioned Office action, claims 1-2 and 11 have been rejected as being anticipated by Denda (US Pat. No. 5,124,728) under 35 U.S.C. § 102(b).

The rejection has been noted and claim 1 has been amended in an effort to even more clearly define the invention of the instant application. More specifically, the features of claims 3 and 4 and part of the features of claim 7 have been added to claim 1.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, inter alia:

a movable belt formed with through-passage holes, said belt having a surface underlying the sheetlike article, the sheetlike article being retainable by pneumatic pressure on said surface; and

a screening device disposed locally fixedly with respect to the operating station, said screening device serving for reducing an airflow in a region of the printing heads at least with respect to adjacent regions, the reduction in the airflow resulting from the sheetlike article being held on said underlying surface, said screening device including:

a cover plate disposed beneath said belt, said cover plate formed with pass-through openings; and

a mesh formed with holes and disposed beneath said cover plate, the holes of said mesh being of such number and size to cause, as a result of flow resistance thereof, an adequate reduction in the airflow in the region of the printing heads.

The basic concept of the invention of the instant application is that a paper transported on a belt has to be kept secure on the belt while applying ink jet information and while the paper passes an ink jet zone (see Fig. 2). This is achieved by a "3-layer structure" in which the first layer is the belt (3), the second layer is represented by the cover plate (26), and the third layer is represented by the mesh (29) which is attached additionally to the cover plate (26).

Denda discloses an ink jet recording apparatus having a vacuum plate 2 which has a plurality of opening holes. A vacuum device creates a vacuum beneath the plate in order to attract a recording medium such as a paper sheet.

However, Denda does not show a "3-layer structure", especially not a mesh disposed below the cover plate, as recited in claim 1 of the instant application. Claim 1 is, therefore, believed to be patentable over Denda and since claims 2 and 11 are ultimately dependent on claim 1, they are believed to be patentable as well.

In the section entitled "Claim Rejections - 35 USC § 103" on pages 3-5 of the above-mentioned Office action, claims 3 and 10 have been rejected as being unpatentable over Denda in view of Wotton et al. (US Pat. No. 6,394,596) under 35 U.S.C. § 103(a); claims 4-9 have been rejected as being unpatentable over Denda in view of Yraceburu et al. (US Pat. No. 6,409,332) under 35 U.S.C. § 103(a).

Wotton et al. describe a paper transport system for transporting a paper through a printer. It has a flexible belt for moving the paper. The belt is perforated in order to apply a vacuum to the paper. The belt moves over a surface of a platen. The platen covers a vacuum box and has a plurality of holes.

Yraceburu et al. disclose an ink jet for applying ink to a paper. The paper is transported on an endless loop belt 32. The belt 32 is fed over a generic platen 36 in the printing zone 34. The platen 36 has a plurality of openings in order to apply vacuum to the belt.

None of the cited references shows a "3-layer structure" as recited in claim 1 of the instant application. Each of the references shows a transport belt with holes and a cover plate covering the vacuum device. According to the invention of the instant application, however, an additional mesh is applied to

the cover plate. This additional mesh only applies in areas where the ink jet-heads can be located (see especially Fig. 2 of the instant application).

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claim 1. Claim 1 is, therefore, believed to be patentable over the art and since claims 5-10 are ultimately dependent on claim 1, they are believed to be patentable as well. Claims 3 and 4 have been cancelled.

Claims 12 and 13 have been added to recite that the pass-through openings of the cover plate in the region of the printing heads have a smaller pass-through surface area than the pass-through openings outside this region and that the mesh only applies in areas where the printing heads are located, respectively. The support for these claims can be found on page 17, line 20 to page 18, line 3 of the specification and Fig. 2 of the instant application. Since claims 12 and 13 are dependent on claim 1, which is believed to be patentable as discussed above, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 1-2 and 5-13 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate a telephone call so that, if possible, patentable language can be worked out.

Please charge any fees which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted

  
For Applicant

LAURENCE A. GREENBERG  
REG. NO. 29,308

YHC:cgm

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Lerner and Greenberg, P.A.  
Post Office Box 2480  
Hollywood, FL 33022-2480  
Tel: (954) 925-1100  
Fax: (954) 925-1101

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Marked-Up Version of the Amended Paragraphs in the  
Specification and Marked-Up Version of the Amended Claims:

The paragraph starting on page 14, line 23 and ending on  
page 15, line 14 now reads as:

Referring now to the drawings and, first, particularly to Fig. 1 thereof, there is illustrated therein a drive roller 1 for driving a transport belt 3 which is wrapped around four deflecting or diverting rollers 2. The drive roller 1 is driven uniformly by a non-illustrated drive, for example, an electric motor, so that the drive roller 1 revolves continuously during the printing operation. Paper sheets, which are not shown in Fig. 1, are located on the top section or taut belt strand 11 of the transport belt 3 during the printing operation, the paper sheets moving on the belt strand 11 in Fig. 1 from the righthand side to the lefthand side in the direction of the arrows R. Two printing heads 5 are also shown in Fig. 1, above the belt strand 11, these printing heads 11 being spaced a very slight distance from the transport belt 3 and thus, consequently, from the non-illustrated paper sheets disposed thereon. These printing heads [11] 5 may have several hundred nozzles and may thus be of considerable dimensions.

Claim 1(amended). A device for holding a sheetlike article on a movable underlying surface for transporting the sheetlike article at least in one direction selected from the group thereof consisting of a direction into and a direction out of an operating station having [a] printing [unit] heads, the device comprising:

a [member] movable belt formed with through-passage holes, said belt having a surface underlying the sheetlike article, the sheetlike article being retainable by pneumatic pressure on said surface[,]; and

a screening device disposed locally fixedly with respect to [an] the operating station, said screening device serving for reducing an airflow in a region of the printing [unit] heads at least with respect to adjacent regions, the reduction in the airflow resulting from the sheetlike article being held on said underlying surface, said screening device including:

a cover plate disposed beneath said belt, said cover plate formed with pass-through openings; and

a mesh formed with holes and disposed beneath said cover plate, the holes of said mesh being of such number and size to cause, as a result of flow resistance thereof, an



adequate reduction in the airflow in the region of the printing heads.

Claim 5(amended). The holding and transporting device according to claim 1, [wherein] including a virtually limited first suction chamber [is] disposed beneath the region of the printing unit and a negative-pressure source, said screening device having a throttle opening [via which], said first suction chamber [is] being connected to [a] said negative-pressure source via said throttle opening.

Claim 6(amended). The holding and transporting device according to claim 5, including further suction chambers connected to said negative-pressure source, said further suction chambers being located adjacent [to] said first suction chamber and having a greater negative pressure than that of said first suction chamber.

Claim 7(amended). The holding and transporting device according to claim [4] 6, wherein [said mesh is disposed beneath a cover plate formed with pass-through openings,] said cover plate [covering] covers said suction chambers and [serving] serves for guiding said belt.